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EXPLANATION OF THE PLATES.

Plate XLVIII.

Fig. 1. *Cytæandra areolata* (sp.?), an early stage, × 30; p. 817. Plymouth, 1893.
Fig. 1 *a*. Diagram of the margin of the umbrella.
Fig. 2. *Cytæandra areolata*, adult, × 10; p. 818. Port Erin, 1894.
Fig. 3. *Dipleurosoma hemisphæricum*, an intermediate stage, × 10; p. 826. Valencia, 1896.
Fig. 3 *a*. Diagram of the margin of the umbrella.

Plate XLIX.

Fig. 1. *Aglantha rosea*, adult, × 5; p. 833. Valencia, 1895.
Fig. 1 *a*. Diagram of the margin of the umbrella.
Fig. 1 *b*. A portion of the margin between two radial canals.
Fig. 2. *Dipurena halterata*, adult ♂, × 4; p. 816. Valencia, 1896.
Fig. 2 *a*. Terminal bulb of a tentacle expanded.
Fig. 2 *b*. Terminal bulb of a tentacle contracted.
Fig. 3. A Leptomedusa (gen.? sp.?), × 35; p. 832. Valencia, 1896.
Fig. 3 *a*. Diagram of the margin of the umbrella.
Fig. 4. *Laodice calcarata* (sp.?), a portion of the margin of the umbrella, enlarged, p. 823. Valencia, 1896.

2. On three consignments of Butterflies collected in Natal in 1896 and 1897 by Mr. Guy A. K. Marshall, F.Z.S.

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[Received July 26, 1897.]

(Plate L.)

Since his return to South Africa, Mr. Guy A. K. Marshall has most liberally fulfilled a promise which he made me when in England to collect Lepidoptera for the Museum: indeed, so rapidly has one consignment followed another that it has been impossible to mount the specimens so fast as received. The notes which accompany many of the species are of considerable interest to Lepidopterists generally: therefore, as the first three consignments, consisting of 667 examples, are now all set, I think it best to deal at once with these, leaving a further consignment just received for a supplementary paper.

Mr. Marshall is an admirable and indefatigable collector, and knows the South-African Butterflies so well that he has been able to add many desiderata to the National Collection, some of them

being, as my friend Mr. Trimen assures me, of considerable rarity, and one or two either only recently added or new to the known fauna of South Africa.

Referring to his first consignment, Mr. Marshall writes (Estcourt, Natal, 20th October 1896):—"I am forwarding you by this mail a small sample of the butterflies that I have been taking since my arrival in Natal, and I hope you will find some useful and interesting specimens among them.

"Butterflies have not been by any means plentiful so far, as I only arrived just in time to get the fag-end of the winter broods, and the summer forms are only just beginning to put in an occasional appearance—October being an essentially 'intermediate' month in this particular locality. Estcourt is not a strikingly rich place, but we get some rare local species here. However, to-morrow I am off for a fortnight's collecting on the Tugela River in the 'thorn' district, which is a good locality, especially for *Pieridæ*, and I hope I shall be able to send you a few nice intermediate seasonal specimens before long." Then follow notes on many of the species. "I shall be glad to see how far you agree or disagree with my nomenclature of the specimens sent."

In a letter dated "14th December, 1896," he writes:—"I am sending you by this mail a second small instalment of butterflies, some of which I expect you will be glad to have. My trip to the Tugela was somewhat of a disappointment, as insects were unusually scarce down there owing to the prolonged drought. However, I managed to get a good number of the commoner *Pieridæ*, and, what is more, I succeeded in breeding *Teracolus auxo* from eggs laid by an indubitable *T. topha*, which decidedly settles, in my opinion, the seasonal dimorphism question in the South-African species of that genus." [The remainder of this letter consists of field-notes.]

In my opinion the description of *T. topha* refers to an intermediate form between the wet-season form *T. auxo* and the dry-season form *T. keiskamma*, having almost the outline of the former but approaching the latter in the coloration and marking of the under surface. Mr. Marshall's practical experiment proves the truth of the opinion expressed by Mr. Mansel Weale in 1877, based upon the fact that both *T. auxo* and *T. keiskamma* deposited their eggs in the same manner upon the same bush and were produced from exactly similar larvæ at different times of the year.

In a letter dated from Malvern, 17th April, Mr. Marshall writes:—"I am sending you to-day two small boxes of butterflies, one of which also contains a few moths. I was glad to be able to get you a specimen of what I consider to be the dry-season form of *Acræa anacreon*[1], as I was afraid I should be too early for them at the Karkloof; but, as you will notice, the dry-season forms in that locality appear a good month or six weeks before they do down here, though the seasons are to all appearance precisely the

[1] Not included, however, in this consignment.—A. G. B.

same —the Karkloof being if anything rather more humid. I would also call your attention to the dry-season examples of *A. induna*, *A. caldarena*, and *A. asema*."

I shall now proceed to give a list of the Butterflies included in these three consignments, with the dates of their capture and other notes of interest, either taken from the envelopes in which they were forwarded or from Mr. Marshall's letters. The complete references to original descriptions and figures in Mr. Trimen's valuable work 'The Butterflies of South Africa' render it unnecessary, in most cases, to repeat them in the present paper.

1. Amauris echeria, Koll.

One typical specimen and four of the prevalent Natal form *A. albimaculata*. Malvern, 800 feet, 11th to 16th August [1].

2. Limnas chrysippus, Linn.

♀ ♀ Malvern, 10th and 15th August: Estcourt, 4000 feet, 28th September, ♂ ♂ 29th September, 13th October; Tugela River, 2500 feet, 27th October, ♀ 5th November, 1896.

3. Samanta perspicua, Trimen.

Malvern, 10th August, 1896 (dry-season form).

The single example forwarded does not bear out Mr. Marshall's view that *S. simonsi* is the dry form, for it does not differ on the upperside from the typical wet-season form; Mr. Marshall, however, remarks:—"This specimen is an example of the dry form which prevails along the S.E. coast, the dry form of the interior plateaux being, as I have told you, your *S. simonsi*. I have seen dry specimens from the Shiré River which are inseparable from the latter on the underside, but retain the brown upperside as in the southern form."

This is all very well, and I will not dispute the probable identity of the two species; but the fact that some dry-season examples of *S. perspicua* nearly resemble *S. simonsi* on the underside does not explain the fact that the latter has the upper surface bright ochre-yellow as in *S. eliasis* of Western Africa (which is undoubtedly a wet-season form!).

4. Ypthima doleta.

Ypthima doleta, Kirby, Proc. Roy. Dubl. Soc. (2) ii. p. 336 (1880).

Ypthima asterope, Trimen (not Klug), South African Butterflies, i. p. 66 (1887).

Estcourt, 4000 feet, 1st and 6th September; Tugela River near Weenen, 2500 feet, 5th and 9th November, 1896.

Very great confusion has been made with respect to *Y. asterope* by many Lepidopterists. It is an insect strictly confined to Arabia; for, in my opinion, the small examples from Somaliland

[1] Mr. Marshall observes that about 5 per cent. of the specimens he took were typical; the rest were *A. albimaculata*.

which I recorded as *Y. asterope* will prove to be the dry-season form of the Abyssinian *Y. simplicia*—a species ranging down the Eastern side of Africa as far as Nyasa, where it meets with *Y. granulosa*. The latter seems to be the Eastern representative of *Y. doleta*, from which it differs in its usually smaller size and the less angulated character of the bands crossing the under surface of the secondaries.

The Southern examples of *Y. doleta* differ from those of the North-west in their somewhat greyer colour below, in the narrower iris to the subapical ocellus of the primaries, and sometimes in the more prominent angle to the outer stripe across the under surface of the secondaries: they might therefore be separated as a race, provided that intermediate forms do not exist in Angola or farther southward.

From *Y. asterope* they may readily be distinguished by the better defined banding of the under surface, but especially by the subanal ocellus on the secondaries, which is rounded and with a geminate or crescentic pupil in *Y. asterope*, whereas in *Y. doleta* it is represented by two tiny connate ocelli placed at a more or less oblique angle.

5. Physcænura panda, Boisd.

Tugela River, near Weenen, 2500 feet, 9th and 14th to 16th November, 1896.

Hitherto represented in the Hewitson collection, but not in our general series.

6. Pseudonympha vigilans, Trimen. (Plate L. fig. 1.)

Chuga's Hill near Weenen, 4000 feet, 29th October; Estcourt, 22nd November, 1896.

7. Pseudonympha pœtula. (Plate L. fig. 2.)

Pseudonympha pœtula, Trimen, Trans. Ent. Soc. 1891, p. 169.

Niginya, 6500 feet, Neundi, 10th, 15th, and 18th September, 1896.

Although this species is undoubtedly nearly allied to *P. trimeni*, the distinctive characters appear to be quite constant and fully justify its separation as a species.

Mr. Marshall observes that "This is a very local species, Niginya, 20 miles from here (Estcourt), being the only locality for it that I know of in Natal. It does not seem to descend below 6000 feet, frequenting the extreme edges of the rocky kraantzes or precipices; hitherto Mr. Hutchinson has only found it during the end of August and beginning of September."

8. Pseudonympha cassius, Godt.

Ulundi, 5300 feet, 11th September; Niginya, 5800 feet, 12th September, 1896; Karkloof, 15th February, 1897.

"A common species, frequenting the edges of woods."

This was also new to the Museum collection.

9. Pseudonympha sabacus, Trimen.

Karkloof, 4200 feet, 8th, 12th, and 15th February, 1897.

10. Neocænyra neita, Wallengren.

Frere, 3800 feet, 2nd, 4th, 5th, and 10th December, 1896.

As Mr. Trimen has included this species in the genus *Pseudonympha*, I am not surprised that he failed to note the structural characters which I indicated as distinguishing the genus *Neocœnyra*: the species of the two genera can be separated at the first glance by the different structure of their antennæ; but, apart from structural differences, the style of marking in *Neocœnyra* is far more suggestive of *Erebia* and *Palœonympha* than that of *Pseudonympha*.

11. Meneris indosa, Trimen.

Karkloof, 4200 feet, 15th, 17th, and 20th February, 1897.

The neuration and palpi of this species and of *M. dendrophilus* correspond with those of *Meneris*; the antennæ are perhaps comparatively shorter, and certainly more slender and less strongly clubbed; but the form of wing and character of marking are not very dissimilar. I therefore follow Mr. Heron in placing them in *Meneris*.

12. Charaxes jahlusa, Trimen.

Tugela River, near Weenen, 2500 feet; ♀ 28th October, ♂ 10th November, 1896.

13. Pyrameis cardui, Linn.

Estcourt, 4000 feet, 25th August, 20th September, and 15th October, 1896.

14. Hypanartia schœneia, Trimen.

Karkloof, 4200 feet, May 1896.

15. Junonia cloantha, Cramer.

Estcourt, 4000 feet, 24th and 27th August, 1896.

I can see no reason for adopting Karsch's *Catacroptera*, which to my mind was based upon trivial characters.

16. Junonia archesia, Cramer.

"Dry form," Malvern, 800 feet, 11th August, 1896.

16 *a*. Junonia pelasgis, Godart.

"Wet form," Tugela River, near Weenen, 2500 feet, 23rd October and 13th November, 1896.

Mr. Marshall writes:—"I have again had an opportunity of observing the seasonal relationship existing between *J. archesia* and *J. pelasgis*, and *J. octavia-natalensis* and *J. sesamus*, which quite supports the opinion expressed by me in the Trans. Ent. Soc. for September. Unfortunately, I have been unsuccessful in obtaining

eggs laid by *J. archesia* and *J. sesamus*, and I fear I have lost my chance this season, as there are only a few battered individuals left, and their respective wet forms *J. pelasgis* and *J. natalensis* are just beginning to appear."

In the Museum we have an almost perfect transitional series between *J archesia* and *J. pelasgis* (including *J. chapunga*), so that there can be little, if any, reason for doubting their specific identity.

17. Junonia sesamus, Trimen.

"Dry form," Malvern, 800 feet, 11th August, 1896.

I can see no object in calling the South-African species *J. octavia*. The latter is purely a Western butterfly of which the dry form is probably *J. amestris*, provided that *J. natalensis*= *calescens* can be proved to be the wet form of *J. sesamus*; this, however, is at present open to question, for Mr. Distant informs me that in the Transvaal he found *J. sesamus* exceedingly abundant, whereas he only succeeded in obtaining one specimen of *J. natalensis*. That this is also the case with *J. amestris* as compared with *J. octavia* is abundantly evident in collections.

18. Junonia aurorina.

♂. *Junonia aurorina*, Butler, P. Z. S. 1893, p. 651, pl. lx. fig. 3.

♂ ♂, Karkloof, 4200 feet, 30th January, 14th February; ♀, 15th February, 1897.

Mr. Marshall marks this as "*Junonia tugela* (wet)," which bears out what Mr. Cecil Barker says respecting the modification of the apex of the wing in that species. If proved, it will, I think, tend to show that *J. kowara* and *J. sinuata* are also seasonal forms of one species.

19. Junonia cebrene, Trimen.

Estcourt, 4000 feet, 28th August, 30th September, 2nd and 10th October, 1896.

20. Junonia clelia, Cramer.

Malvern, 800 feet, 10th August; Tugela River, 2500 feet, near Weenen, 9th and 10th November, 1896.

21. Hamanumida dædalus, Fabr.

"Dry form," Malvern, 800 feet, 11th August, 1896.

22. Eurytela hiarbas, Drury.

Durban, 7th August, 1896.

23. Byblia ilithyia, var. simplex, Butler.

Intermediate form—Estcourt, 4000 feet, 18th August; 6th, 23rd, and 27th September; 3rd, 10th, 13th, 15th, and 17th October, 1896.

I have never seen typical *B. simplex* from Africa before. The

examples taken in October are more or less intermediate between true *B. ilithyia* and *B. simplex*, usually having the underside pattern of the latter.

Var. ACHELOIA, Wallgr.

"Dry form," Durban, 6th August, 1886.

24. PLANEMA AGANICE, Hewits.

♂, Durban, 7th August, 1896.

25. ACRÆA CABIRA, Hopffer.

Malvern, 10th and 13th August, 1896.

26. ACRÆA SERENA, var. BUXTONI, Butler.

Malvern, 8th, 10th, and 11th August, 1896; Karkloof, 14th and 17th February, 1897.

"The dry-season females resemble the males in colouring."

27. ACRÆA LYCIA, var. SGANZINI, Boisd.

Malvern, 10th August, 1896.

28. ACRÆA ANACREON, Trimen.

Ulundi, 5000 feet, 13th, 15th, and 16th October, 1896.

"These were bred here from larvæ that we brought down from Ulundi, and represent the normal wet-season form in S. Africa." In Nyasaland this species tends to produce better defined red internervular streaks on the under surface, whilst the black markings on the secondaries (and notably the submarginal black band) are generally less strongly defined than in Southern examples: these differences, however, are not constant, and therefore cannot be relied upon as specific characters.

29. ACRÆA NATALICA, Boisd.

Malvern, 800 feet, 12th August, 1896.

30. ACRÆA ACARA, Hewits.

Tugela River, 2500 feet, near Weenen, 27th October and 14th November, 1896.

31. ACRÆA NEOBULE, Doubl.

Tugela River, 2500 feet, near Weenen, 1st November, 1896.

32. ACRÆA HORTA, Linn.

Karkloof, 4200 feet, 13th and 15th February, 1897.

33. ACRÆA BURNI, Butler. (Plate L. fig. 3.)

Acræa burni, Butler, Ann. Nat. Hist. ser. 6, vol. xviii. p. 467 (1896).

Tugela River, 2500 feet, near Weenen, 31st October; 2nd, 5th, and 6th November, 1896.

34. Alæna amazoula, Boisd.

Tugela River, 2500 feet, near Weenen, 1st, 2nd, 3rd, 5th, 6th, and 10th November, 1896.

The examples obtained on the 10th were coupled.

35. Polyommatus bæticus, Linn.

Frere, 3800 feet, 8th December, 1896.

36. Catochrysops asopus, Hopffer.

Tugela River, 2500 feet, 3rd, 14th, and 15th November, 1896.

37. Catochrysops procera, Trimen.

♀, Estcourt, 4000 feet, 17th October, 1896.

"So far as I am aware only twelve specimens have ever been taken as yet, and all in this neighbourhood—five by J. M. Hutchinson 13 years ago, on which Trimen founded the species, two by C. W. Morrison, and five by myself this season."

38. Catochrysops parsimon, Trimen (not Fabricius).

♂, Chuga's Hill, near Weenen, 4000 feet, 13th November, 1896.

The lilac tint of the upperside is wanting in this species.

39. Catochrysops patricia, Trimen.

Estcourt, 27th September and 18th October; Tugela River, near Weenen, 28th October, 1st, 3rd, 11th, and 15th November, 1896.

I expressed the belief, to Mr. Marshall, that this would prove to be only a form of *C. parsimon*; but he writes:—

"I cannot concur in your opinion that this is conspecific with *C. parsimon*. Both their habits and distribution differ, and as they are both wet-season species, they cannot be seasonal forms." The males appear to be readily separable, but the females of the two species are so similar that Mr. Marshall himself hesitated respecting one of the specimens forwarded, labelling it *C. patricia*? However, his note would settle the matter of the distinctness of the two (which, by the way, I never associated together in the Collection), provided that the *C. parsimon* of Natal were the same as that of the West coast, which I do not admit: the example sent by Mr. Marshall wants the lilac colouring of the Western insect.

The *C. parsimon* of Trimen certainly is not the Fabrician species, which we only have from Sierra Leone and Lagos. The type referred to by Fabricius himself as in the Banksian collection from Sierra Leone is undoubtedly the female of our Sierra Leone species: it is a faded example, showing but little blue-shot colouring, and therefore Fabricius described it as brown. The diagnosis indeed fairly well fits his type, although the fuller description was probably taken from a male nearer to Trimen's *C. parsimon*, but immaculate above; we have such a male from the Scott Elliot collection (Salt Lake to Wawamba). The female *type* is again indicated at the end of the Fabrician description, "subtus—posticæ ad basin punctis *quinque* atris, annulo albo cinctis"; also—"Variat

supra alis anticis macula media nigra et posticis lunulis apicis albis maculaque rufa." In the supposed *C. parsimon* of S. Africa there are usually six black spots towards the base of the hind wings below, and the discoidal spot on the primaries is comparatively small.

40. Catochrysops caffrariæ, Trimen.

♂ ♀, Niginya, 5800 feet, Ulundi, Natal, 17th September, 1896.

"This scarce species has never been taken in Natal before. We found it fairly numerous along a particular steep slope on the N. side of Niginya, but it flew very quickly, and owing to the steepness of the hill-side was very hard to take except when feeding. A large percentage of the specimens were much damaged, chiefly in the hind wings, by the attacks of hawk-flies (*Asilidæ*). I took many eggs and several larvæ, but failed to rear any of them."

41. Catochrysops niobe, Trimen.

♂ ♀, Ulundi, 5000 feet, 19th September, 1896.

42. Catochrysops dolorosa, Trimen.

Estcourt, 2nd, 4th, and 17th October; Frere, 3800 feet, 6th December, 1896.

43. Catochrysops ignota, Trimen.

Estcourt, 1st, 4th, 8th, 9th, 10th, 11th, 12th, 14th, and 17th October; Chuga's Hill, near Weenen, 4000 feet, 29th October, 1896.

"Apparently a very local insect, but common here at this time of year."

44. Catochrysops mahallokoæna, Wallgr.

Estcourt, 4th October; Tugela River, 31st October and 9th November; Frere, 9th December, 1896.

45. Neolycæna cissus, Godart.

Frere, 3rd, 4th, 5th, 6th, 9th, and 10th December, 1896.

46. Cupidopsis jobates, Hopffer.

Tugela River, 2500 feet, 3rd November; Frere, 3800 feet, 10th December, 1896.

47. Azanus moriqua, Wallgr.

Tugela River, 2500 feet, 14th November, 1896.

48. Azanus jesous, Guérin.

Tugela River, 23rd and 26th October, 9th and 16th November, 1896.

49. Azanus zena, Moore.

♂, Estcourt, 9th October; ♀, 12th December, 1896.

This is the *A. macalenga* of Trimen, but Moore's name has about

five years' priority. Mr. Marshall asks—"Is *Azanus macalenga*, Trimen, identical with *A. ubaldus*, Cram.? There is a single specimen of the latter in the Durban Museum from the Punjab, and I can detect no difference."

The chief difference between *A. ubaldus* and *A. zena* is that the male of the former has no belt of thickened lilac scales across the upper surface of the primaries: if the females got mixed it would be no easy matter to sort them.

50. Tarucus plinius, Fabr.

Tugela River, 30th October and 9th November, 1896.

51. Tarucus theophrastus, Fabr.

Tugela River, near Weenen, 22nd October, 3rd and 9th November, 1896.

T. cybaris cannot be distinguished from this species.

52. Zizera knysna, Trimen.

Estcourt, 27th September, 3rd and 18th October; Tugela River, 26th October, 6th and 15th November, 1896.

The specimens were labelled *Z. lysimon*, but that species can be distinguished at a glance by the outer border to the wings of the male occupying the outer fourth of the wing and by the smoky-brown upper surface of the female; the under surface of the wings is also much browner and with considerably less sharply defined markings.

53. Zizera gaika, Trimen.

Tugela River, 31st October, 1st November; Estcourt, 27th and 30th November, 13th December; Frere, 6th, 8th, and 9th December, 1896.

54. Zizera lucida, Trimen.

Estcourt, 27th September, 11th, 14th, 15th, and 18th October, 1896; Karkloof, 15th February, 1897.

55. Castalius calice, Hopffer.

Estcourt, 18th October; Tugela River near Weenen, 30th October, 1896.

"A scarce species round here. I am strongly inclined to believe the *C. melæna*, Trimen, is only the wet-season form of this."

56. Lycænesthes liodes, Hewits.

♂, Tugela River, 2500 feet, 15th November; ♀, Estcourt, 4000 feet, 13th December, 1896; Karkloof, 17th February, 1897.

Mr. Marshall notes that *Lycænesthes livida* (of which there is one worn male example from the first three consignments) is "a very rare species, taken flying round a bush on a high kopje."

57. Lycænesthes millari.

Lycænesthes millari, Trimen, Trans. Ent. Soc. 1893, p. 133, pl. viii. fig. 9.

♂, Tugela River, near Weneen, 2500 feet, 5th and 13th November, 1896.

58. Lycænesthes otacilia, Trimen.

♀, Estcourt, 13th October, 1896.
"Abundant later on, on Acacias." It is new to the Museum.

59. Lycænesthes amarah, Guér.

Tugela River, 15th and 19th November, 1896.

60. Scolitantides metophis, Wallgr.

Tugela River, 3rd, 5th, 6th, 8th, and 15th November, 1896.
I do not for a moment believe that it is possible to distinguish *S. barberæ* from *S. metophis*; in a series of six examples, obtained by Mr. Marshall on the same day, the expanse of wings varies from 16 to 20 millimetres, and the submarginal white spots on the secondaries from one to three on opposite wings of the same example: the character upon which the former may yet be separated, so far as our present series goes, is the absence of the conspicuous (but somewhat variable) white submarginal spot preceding the second cluster of silver scales on the under surface of the secondaries; and that appears to me to be insufficient. It is hard upon me, considering the reputation with which I have been saddled of being a multiplier of names, to have to call in question the validity of one of my friend Trimen's species; but I must confess that, in bolstering up *L. barberæ*, he departs so widely from the "broad views" which used to characterize his early work that I am fain to remonstrate.

61. Cacyreus lingeus, Cramer.

Karkloof, 12th and 14th February, 1897.
The generic name of *Hyreus* being preoccupied in Birds, I will rename this genus *Cacyreus*, taking *C. lingeus* as type.

62. Cacyreus palæmon, Cramer. (Plate L. fig. 4.)

Niginya, 5800 feet, Ulundi, 14th September, 1896.
Mr. Marshall writes—"You will observe that the specimens from Ulundi are of the usual bluish-coppery tinge, but round here neither sex ever shows a trace of blue; there is also a slight but seemingly constant difference on the underside: perhaps it should be regarded as a subspecies." I think myself that it is a distinct species.

63. Cacyreus marshalli, sp. n. (Plate L. fig. 5.)

Differs from *C. palæmon* in its squarer form, the costa of the primaries being shorter and the secondaries with shorter abdominal margin. Owing to the bronze-brown colouring of the

upper surface, the white spots on the fringe appear more conspicuously: the primaries below have larger but less sharply defined white spots on the outer border; the secondaries have narrower bands, that from the middle of the cell to the abdominal margin being more interrupted but grey and indistinct (so that the wing appears to be crossed by a broad belt of greyish white), the dark discal band curves upwards at its abdominal extremity, the last spot composing it being small and heart-shaped; the anal area is filled with a quadrate patch of pale sandy brown, forming the outer part of the usual whitish irregular blotch, which is more acutely indented on its outer margin; lastly, the two usual black spots show little (often no) metallic green scaling. Expanse of wings 20–28 millimetres.

Estcourt, 4000 feet, 2nd, 14th, 15th, and 18th October, 22nd, 23rd, 28th, and 29th November, and 13th December; Frere, 3800 feet, 2nd and 4th December, 1896.

Two other examples previously in the Museum bring our present series up to seventeen examples: none of these are in the least degree intermediate.

64. Cyclyrius noquasa, Trimen. (Plate L. fig. 6.)

Ulundi, 5000 feet, 19th September, 1896.

"A local species, apparently confined to the upper districts of this Colony; when met with, it is generally abundant, frequenting damp low-lying places."

65. Lachnocnema bibulus, Fabr.

Malvern, 16th August; Tugela River, near Weenen, 30th October, 2nd, 13th, and 14th November, 1896.

66. Lachnocnema durbani, Trimen.

Estcourt, 6th, 27th, 28th, and 30th September, 1st, 2nd, and 8th October, 24th November and 12th December, Tugela River, 12th November, 1896.

In his letter of October 20th Mr. Marshall says:—"I believe you are right in regarding this as conspecific with *L. bibulus*; but I have not sufficient data to enable me to speak definitely, chiefly owing to the fact that in Mashonaland I never distinguished between the two and recorded them all as *L. bibulus* in my note-book."

On the 14th December, however, he writes:—"With regard to my suggestion that *Lachnocnema durbani* was probably only the dry-season form of *L. bibulus*, I have now not the least hesitation in saying that it is incorrect. The former insect is still on the wing and in good condition, and therefore cannot be a dry-season form of anything else. Moreover, I am convinced that it is not a variety of *L. bibulus*. In your note on the subject you appear to ignore the fact that there is a decided and constant difference between the males of the two forms, which you will perceive from the specimens I have sent you.

"In this neighbourhood *L. durbani* is a very common insect, frequenting open stony kopjes, where the males may be seen (sometimes three and four together) chasing each other round and round at a great pace, about a foot or so above the ground, and resting occasionally on stones or grass-stems. *L. bibulus*, however, is distinctly an arboreal 'bush'-loving insect, and is consequently scarce here. It is always to be found flying round trees in company with various species of *Lycænesthes* or *Azanus*, and is never seen in company with *L. durbani*. It is not nearly so active an insect as the latter and does not fly much unless disturbed, but prefers sitting quietly on the smaller twigs, where its colouring affords it excellent protection. Down at the Tugela, Burn tells me it is a very common insect everywhere, but though he has collected there for four years he has never taken *L. durbani*. However, I turned it up while I was down there, finding it only among long grass on the tops of the highest hills. If, after this, you still maintain them to be conspecific, the *onus probandi* will remain with you."

Mr. Marshall seems to think that I am very hard to convince of error, and yet I have always frankly admitted myself wrong when any published opinion of mine has been shown to be incorrect. My view of the specific identity of *L. bibulus* and *L. durbani* was based upon the fact that the specimens of the former received from Nyasaland showed considerable variation in size, in the colouring of the females on the upper surface and the pattern of the under surface. There is, however, a wonderful uniformity of character in all the examples of *L. durbani* sent to us by Mr. Marshall, and I am bound to admit that, although some of the females of *L. bibulus* received from Nyasa greatly resemble those of *L. durbani* in the colouring of the upper surface, none of them correspond with the latter on the under surface.

If it could be shown that *L. durbani* was a dry form of *L. bibulus*, I do not think the difference of habit would be unique; but, unless the species is subject to alternating generation (in which case the dry phase of one brood might appear only shortly before the wet phase of the other), I see no way of explaining the simultaneous perfect condition of both insects. Of course the same argument applies to other species which have been accepted as seasonal forms, but which have also been taken in perfect condition in the middle of the rains.

67. Thestor basuta, Wallgr.

♀, Estcourt, 4000 feet, 25th November; ♂, Frere, 3800 feet, 5th December, 1896.

68. Alœides orthus, Trimen.

Estcourt, 30th September, 1st, 2nd, 3rd, 10th, and 19th October; Tugela River, 22nd and 23rd October, 1896.

"At one time I thought this species would prove identical with the brown form of *A. trikosama*, but I am now sure they are distinct."

69. Alœides trikosama, Wallgr.

Estcourt, 6th, 23rd, and 29th September, 1st, 2nd, 3rd, and 12th October; Niginya, Ulundi, 10th, 12th, 13th, 14th, 16th, and 17th September; Frere, 2nd and 10th December, 1896.

"This appears to be a very variable species, ranging from orange with brown markings to brown with very slight orange markings. I am inclined to consider the orange form as the spring one, and the brown as the late summer and autumn form, as the species does not occur in mid-winter. However, I have hardly worked out the matter sufficiently to speak definitely yet, but I have got several young larvæ from eggs laid by an orange female. She deposited them at the roots of grass, burying them just below the surface, a method of ovipositing which I have never seen in any other species."

Perhaps it may assist Mr. Marshall to indicate the times of capture of the two forms as represented by the twenty-eight examples which he has sent us in the present series and which (being in papers) were not easily examined until set:—

Orange form.	Intermediate.	Brown.
10th Sept.–10th Dec.	2nd–12th Oct.	29th Sept.–2nd Dec.
18 examples.	4 examples.	6 examples.

The extremes and intermediates were captured on the same days and all in perfect condition; therefore I think Mr. Marshall will find that they have no seasonal value.

70. Alœides thyra, Linn.

Niginya, Ulundi, 6000 feet, 10th and 15th September, 1896.

71. Zeritis amanga, Westw.

Tugela near Weenen, 2500 feet, 5th November, 1896.

72. Zeritis harpax, Fabr.

Estcourt, 23rd and 29th September; 3rd, 4th, 5th, 8th, 12th, 14th, 15th, 16th, and 17th October, 1896.

Chrysoritis, gen. nov.

Intermediate in character between *Chrysorychia* and *Cigaritis*, having almost the form of the latter, but much more nearly resembling the former in the character of the under-surface markings.

It differs from all the forms of the *Zeritis* group and from *Chrysophanus* in having no apical furca to the subcostal vein of the primaries, this vein therefore being quadriramose; the upper radial also is emitted from the subcostal vein at some distance beyond the end of the cell.

Type, *Zeritis oreas*, Trimen.

73. Chrysoritis oreas, Trimen.

Niginya, 6500 feet, Ulundi, Natal, 18th September, 1896.

"I expect this very rare species will be new to the Museum collection. Hutchinson discovered it some years ago at a spot close under the main Drakensberg range some ten miles from Ulundi, and has never met with it since. It exhibits strongly the tendency to localization, for we only found it in a limited area of two or three acres on the summit of Niginya. Within this area it was abundant, as we took over fifty there between us, but outside of it not one was to be seen. It is very sluggish, flying very little, it being sometimes quite a difficulty to make it rise off the ground."

Mr. Marshall is quite right in his surmise that this species is new to the Museum collection.

74. Crudaria leroma, Wallgr.

Tugela River, 2500 feet, 28th October; 3rd, 9th, and 13th November; Frere, 3800 feet, 5th and 6th December, 1896.

75. Chrysophanus orus, Cramer.

Estcourt, 8th October; Frere, 5800 feet, 4th, 9th, and 10th December, 1896.

76. Hypolycæna lara, Linn.

Chuga's Hill, 4000 feet, near Weenen, Natal, 29th October; Tugela River, 13th November, 1896.

Sooner or later a genus must be made for this species, which has but little in common with typical *Hypolycæna*.

77. Spindasis phanes, Trimen.

Tugela River, near Weenen, 21st and 26th October, 1896.

Both species of *Spindasis* sent in this collection are new to the Museum.

78. Spindasis masilikazi, Wallgr.

Tugela River, 2500 feet, 10th November, 1896.

79. Aphnæus hutchinsonii, Trimen. (Plate L. fig. 7.)

Tugela River, near Weenen, 30th October and 13th November, 1896.

I never could comprehend why my friend Trimen refused to separate *Spindasis* from *Aphnæus*, the former having only four subcostal branches to the primaries, and the latter five: the style of pattern and coloration on the under surface is also very distinctive.

80. Virachola antalus, Hopffer.

♀, Estcourt, 4000 feet, 13th October, 1896.

"It is a very common insect."

81. Iolaus philippus, Fabr.

Tugela River, near Weenen, 2500 feet, 1st and 11th November, 1896.

I see no reason for distinguishing this species from *Iolaus* at present, and until Lepidopterists are agreed as to the type of *Hypolycæna*,—whether *H. tmolus*, or *H. sipylus*—I prefer to leave *I. philippus* where it is in the Museum collection.

82. Iolaus pallene, Wallgr.

Tugela River, near Weenen, 2500 feet, 3rd and 9th November, 1896.

The Natal examples are decidedly smaller than those from Nyasaland.

83. Iolaus mimosæ, Trimen.

Tugela River, near Weenen, 2500 feet, 5th November, 1896.

Allied to *I. umbrosa* and *I. nursei*, especially to the latter; but I cannot see in it much affinity to *I. ceres*. *I. tajorica*, Walker (apparently from Tajoura, Tripoli), may belong to the same group, but it appears only to have one angle to the transverse discal line on the under surface of secondaries and one or two lines which do not occur in the other species.

84. Argiolaus silas, Hewits.

♂, Tugela River, 2500 feet, 5th November, 1896.

85. Stugeta bowkeri, Trimen.

♀, Tugela River, 2500 feet, near Weenen, 5th November, 1896.

86. Mylothris agathina, Cramer.

♂ ♂, Durban (labelled "*Pieris thysa*"), 7th August; Malvern, 800 feet, 10th August, 1896.

87. Colias edusa and var. electra, Linn.

Ulundi, 5000 feet, 19th September; Estcourt, 4000 feet, 28th and 30th September, 3rd, 5th, 13th, and 17th October, 22nd, 26th, 28th, and 30th November; Tugela River, near Weenen, 2500 feet, 1st and 9th November; Frere, 3800 feet, 4th, 5th, and 6th December, 1896.

Among the thirty-one examples forwarded several are absolutely identical with typical "*C. edusa*"; though, strictly speaking, I believe this species ought to be called *C. hyale*, a name first given to its female by Linnæus.

88. Terias brigitta, Cramer.

Dry form, ♀, Malvern, 8th August; intermediate ♂, 10th August; wet form, 16th August; Estcourt, 27th September; ♀, intermediate, 8th October; ♂, wet, 21st November; ♂ ♂ ♀, Frere, 6th and 9th October, 1896; ♂ ♂, Karkloof, 13th and 15th February, 1897.

The dry, intermediate, and wet phases of this species have been described as distinct species—*T. brigitta* being the female of the dry phase, *T. candace* intermediate, *T. zoe* wet. The capture of all three phases in August looks somewhat curious, but the dry-season female is a good deal worn and the intermediate male a little broken.

89. Terias marshalli, Butler. (Plate L. figs. 8, 9.)

Terias desjardinsii, Trimen, nec Boisd.

♀ ♀, Malvern, 10th and 13th August, 1896.

The specimens belong to the dry-season form of the species. *T. regularis* is a very distinct species.

90. Teracolus johnstoni, Butler.

Tugela River, near Weenen, 2500 feet, 22nd October, 3rd, 15th, and 16th November, 1897.

This is the *T. eris* of Trimen and Marshall, but not of Klug. It differs from the North-African type in its slightly more elongated primaries and consequently greater elongation of the white area on these wings as well as of the ochreous streaks on the apical patch, and in the abrupt termination of the black costal border of the secondaries, which does not emit a transverse streak to the radial nervure as in *T. eris*; the internal black stripe on the primaries of the female is also constantly narrower.

From the Eastern *T. opalescens*, and the Western *T. maimuna*, the differences are even more marked, and nobody looking at a long series of each could hesitate for an instant respecting the local constancy of the characters which distinguish these four types of the *T. eris* group.

91. Teracolus buxtoni, Butler.

♂ ♂, wet-season (=*natalensis*, Staud.), Tugela, near Weenen, 2500 feet, 10th and 15th November, 1896.

Mr. Marshall labels this "*T. phlegyas*," but, in my opinion, it occupies a central position between the latter and *T. ione*. The wet-season form nearly approaches this butterfly on the upper surface, whereas the under surface much more nearly resembles the wet form of *T. imperator*. It must, however, be borne in mind that (in his "Notes on the Synonymy of *Teracolus*") Mr. Marshall has not distinguished between *T. imperator* and *T. phlegyas*, the absence of any examples of *T. natalensis* in our collection, when he examined it, having perhaps led him to believe that the latter was indistinguishable from wet-season examples of *T. imperator*. The two differ much as our *Ganoris rapæ* does from *G. brassicæ*; and as they do not occur together, I am satisfied to regard them as distinct species.

92. Teracolus ione, Godart.

♂, dry-season, Malvern, 800 feet, 10th August, 1896.

This is the form to which I gave the name of *T. jobina*.

93. Teracolus auxo, Lucas.

Intermediate form (= *T. topha*), ♂, Tugela River, 2500 feet, near Weenen, 21st October, 3rd November; ♀, 9th November, 1896. Wet-season, ♂ ♂, 15th, 16th, and 19th November, 1896.

The extreme dry-season form is *T. keiskamma*, Trimen.

Mr. Marshall writes respecting this species as quoted in the introduction to the present paper.

94. Teracolus eione, Boisd.

♂ ♂, wet-season phase, Tugela River, 23rd October, 5th, 11th, 12th, and 13th November; ♀ ♀, 2nd, 10th, and 14th November. Intermediate phase, ♂ ♀, 22nd October; ♂ ♂, 28th October, 2nd, 3rd, and 5th November.

Mr. Marshall labels some of the specimens "*T. evagore*" and others "*T. phlegetonia*," others, again, "*evagore-phlegetonia*." *T. evagore* is undoubtedly the dry-season phase of the Arabian *T. yerburyi* (both having been bred from one batch of larvæ by Capt. Nurse, who, however, followed me in incorrectly calling the dry phase *T. nouna*). *T. phlegetonia* is a species common to Western Africa and the South; it is the wet-season form of *T. antigone*, and differs from *T. eione* in having the base of the primaries broadly lemon-yellow on the under surface; this character is, however, confined to the wet phase of the species. In my judgment three of the examples obtained by Mr. Marshall should be referred to *T. antigone*.

95. Teracolus antigone, Boisd.

Intermediate phase, ♂ ♂, Tugela River, 22nd October and 9th November, 1896.

These examples correspond with my *T. friga*, but do not show the dry characters so strongly on the under surface: one of them is marked as "intermediate" and two are marked "dry." It is inconceivable that wet, intermediate, and dry forms of one and the same species should be flying together, all three being in equally good condition, excepting in an unusually dry and hot climate in which no rainy season could be said to exist.

96. Teracolus exole, Reiche.

♂, Tugela River, near Weenen, 2500 feet, 16th November, 1896.

This is labelled as *T. omphale*, and it may perhaps be an extreme development of that species in which all three phases show a well-defined wet-season upperside pattern: at any rate it is a tolerably distinct form, *T. exole*, Reiche, = *acte*, Felder, being the wet form, *T. roxane* the intermediate, and *T. hybridus* (part) the dry.

97. Teracolus omphale, Godart.

♂ ♂, Tugela River, 27th October, 12th and 14th November; intermediate phase *T. omphaloides*, 27th October; dry phase *T. theogone*, Malvern, ♂ ♂, ♀ ♀, 6th, 7th, 10th, 11th, and 15th August, 1896.

98. Teracolus ithonus, Butler.

Intermediate form (large examples of *T. hyperides*), Tugela River, near Weenen, 2500 feet, ♂, 23rd October; Durban, ♀, 7th August, 1896.

These examples are labelled as the dry-season form of *T. achine*, but *T. simplex* is the dry phase of typical *T. achine*; whereas the dry phase of *T. ithonus* is represented by *T. ignifer* (large), *T. ithonus*, and *T. harmonides* (small); the wet form being represented by *T. hero* (part), and the intermediate phase by specimens resembling those forwarded in the present collection.

T. ithonus may perhaps prove to be only a race of *T. achine*, but it appears to me rather to represent *T. antevippe* in S. Africa. I do not believe in the presence or absence of a black inner bar to the male apical orange patch being immaterial in the wet phase of a species; the dry-season forms usually want this black edging.

99. Teracolus achine, Cramer.

Wet phase, Estcourt, 15th October; Chuga's Hill, near Weenen, 29th October; Tugela River, near Weenen, 6th, 9th, 10th, 12th, 13th, and 16th November. Intermediate phase, ♂, 28th October, ♂ (*in copulâ* with wet phase), 10th and 14th November, 1896.

100. Teracolus annæ, Wallgr.

Tugela River, near Weenen, 2500 feet, 9th, 11th, and 12th November; intermediate phase, 22nd and 30th October, and 12th November, 1896.

101. Teracolus mutans, Butler.

Tugela River, near Weenen, 2500 feet, 28th and 30th October, 2nd, 9th, 10th, 11th, 12th, and 15th November, 1896.

This is the *T. vesta* of Trimen and Marshall, but not of Reiche; the latter differs considerably according to the published figures, and is an Abyssinian species.

102. Glutophrissa contracta, Butler.

♂, Durban, 6th August, 1896.

This is labelled as "*Pieris saba*," but the latter is a very distinct and purely West-African species.

103. Belenois thysa, Hopffer.

♂, Durban, 6th August, 1896.

104. Belenois mesentina, Cramer.

Estcourt, 14th and 15th October; Tugela River, 22nd, 23rd, 27th, 28th, and 29th October, 6th, 8th, 9th, 10th, and 12th November, 1896.

105. Belenois severina, Cramer.

Wet-season form, Tugela River, 31st October, 11th, 14th, and 15th November, 1896: dry-season form (=*B. infida*, var., Butl.),

Durban, 5th, 6th, and 7th August; Malvern, 9th, 10th, and 13th, August; Tugela River, 22nd, 23rd, and 27th October, 3rd November, 1896.

The "dry form" of this species seems to differ in almost exactly the opposite fashion to that of other *Pierinæ*, the apical patch on the upper surface of the primaries being blacker than in the wet form, and the secondaries on the under surface heavily black-veined; it is also noteworthy that the "dry form" was obtained from the 5th August until the 3rd of November in excellent condition.

106. Belenois gidica, Godt.

"Intermediate form," Durban, 6th August; "wet form," Tugela River, 26th October, 5th, 11th, 12th, and 13th November; "dry form" (= *B. abyssinica*, Lucas), Malvern, 13th August, 1896.

107. Synchloe hellica, Linn.

Estcourt, 20th, 22nd, and 24th August, 8th October; Frere, 2nd December, 1896.

108. Pinacopteryx pigea, Boisd.

Malvern, 13th August, 1896.

109. Pinacopteryx charina, Boisd.

Wet form, Tugela River, near Weenen, 21st October, ♂ ♀ *in copulâ*, 10th November, 1896.

110. Herpænia eriphia, Godart.

Wet form, Tugela River, near Weenen, 22nd, 23rd, and 26th October, 3rd, 9th, 10th, 12th, 13th, 14th, and 15th November, 1896.

111. Leuceronia argia, Fabr.

♂ ♀, Karkloof, 4200 feet, 14th February; ♂, 15th February; ♀, 20th February, 1897.

The genus *Leuceronia* was founded by Dr. Aurivillius.

112. Eronia cleodora, Hübn.

Durban, 6th August; Malvern, 15th August; Tugela River, 14th November.

The dry-season examples are slightly smaller, have narrower black borders above, and are more orange on secondaries below than those of the wet-season; the latter sometimes have the borders above as broad as in some male examples[1] of *E. dilatata*; consequently the two types have been confounded by some Lepidopterists.

113. Eronia leda, Boisd.

♂, dry-season form, Malvern, 800 feet, 10th August; ♂, wet-season form, Tugela River, 2500 feet, near Weenen, 1st November, 1896.

[1] Intermediate phase between dry and wet forms.

114. Papilio demoleus, Linn.

♂, Malvern, 800 feet, 8th August, 1896.

115. Papilio euphranor, Trimen.

♂ ♀, Karkloof, 5th and 14th February, 1897.
New to the Museum collection.

116. Papilio constantinus, Ward.

♂ ♀, Tugela River, near Weenen, 16th November, 1896.

117. Papilio ophidicephalus, Oberth.

♂ ♂, Karkloof, 13th and 14th February, 1897.

118. Sarangesa eliminata, Holland.

Tugela River, 2500 feet, 9th November, 1896.

Mr. Marshall writes :—"I should be glad to know whether the specimen labelled *Sarangesa motozioides* is really of that species, for Trimen has certainly amalgamated three, if not four, species in his definition of *S. motozi*, Wallgr." Until comparatively recently most Lepidopterists failed to distinguish between *S. motozi*, *eliminata*, and *pertusa*: the first and last of these differ chiefly in the more or less defined character of the hyaline markings in all the wings and the dark borders to these spots on the primaries, and (although they look fairly distinct) I am by no means sure that they will not prove to be variations of one species. *S. eliminata*, however, is a distinctly smaller insect, with the hyaline spots always small and narrow, and usually with a good deal of ochreous colouring on the under surface; the example labelled by Mr. Marshall shows less ochreous than usual, but is otherwise typical. *S. motozioides* probably does not occur so far south.

119. Sarangesa djælælæ, Wallgr.

Estcourt, 28th August, 17th October, 25th November; Frere, 5th and 6th December, 1896.

120. Pyrgus vindex, Cramer.

In his letter of October 20th Mr. Marshall observes :—"I believe *Hesperia mafa* is only the dry-season form of *H. spio* (=*vindex*), but I shall be able to settle the matter by breeding shortly." [1] In his letter of 14th December he, however, says :—"I was wrong about *Hesperia mafa*, which is also still on the wing, and therefore cannot be a winter form of *H. spio*, though it is curious that the latter has not yet put in an appearance here."

121. Pyrgus mafa, Trimen.

Estcourt, 11th, 12th, 17th, and 18th October; Frere, 6th and 9th December, 1896.

This species is new to the Museum collection.

[1] According to our identifications, *P. spio* and *P. vindex* are as distinct as any wo species in the genus.—A. G. B.

122. Pyrgus asterodia, Trimen.

Niginya, 5800 feet, Ulundi, 17th September; Frere, 3800 feet, 10th December, 1896.

New to the Museum collection.

123. Pyrgus zebra, Butler.

Pyrgus zebra, Butler, Ann. & Mag. N. H. 1888, ser. 6, vol. i. p. 207.

Tugela River, 2500 feet, 26th October and 15th November, 1896.

This is quite new to the African fauna. Recently Mr. Trimen showed me specimens of a nearly allied species (or perhaps a variety of *P. zebra*), differing in the absence of the subbasal whitish bar on the under surface of the secondaries; these Natal examples, however, cannot be distinguished from those of North-western India, excepting in their slightly blacker ground-colour (which, by the way, is probably due to the superior freshness of the specimens).

Mr. Marshall suggests the possibility of this butterfly being *P. sataspes*, but the latter is a very distinct species.

124. Pyrgus ferox, Trimen.

Estcourt, 11th and 12th October; Tugela River, 25th October 2nd and 13th November; Frere, 6th December, 1896.

125. Celænorrhinus mokeezi, Wallgr.

Karkloof, 13th and 14th February, 1897.

126. Cyclopides metis, Linn.

Karkloof, 8th, 13th, and 14th February, 1897.

127. Cyclopides inornatus, Trimen.

Karkloof, 25th January and 21st February, 1897.

New to the Museum collection.

128. Kedestes macomo, Trimen.

Tugela River, 30th October and 1st November, 1896.

New to the general Museum collection, though present in the Hewitson series.

129. Kedestes tucusa, Trimen.

♀, Estcourt, 15th October, 1896.

130. Kedestes callicles, Hewits.

Tugela River, 15th November, 1896.

131. Kedestes wallengreni, Trimen.

Estcourt, 26th August, 1896.

New to the Museum collection.